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REMARKS

Claims 11-15, 19-22, 26, 29, 30, and 33-41 are now pending in this application for which applicants seek reconsideration.

Amendment

By the present amendment, independent claims 42 and 43 have been canceled, and independent claims 11, 33, 40, and 41 have been amended to positively recite a motor or driving means for driving the conveyor or conveyor means, and that the conveying amount is detected in accordance with a signal synchronized with the motor or driving means. Support for the amendment is found at least on pages 29-31, 47-48, and Fig. 5. No new matter has been introduced.

§ 112 Rejection

Claims 11-15, 19-22, 26, 29, 30, and 33-43 were rejected under 35 U.S.C. § 112, second paragraph, because the various claimed features were deemed indefinite. Specifically, the examiner argues, with respect to claim 11, that the difference between the "detecting means for detecting a conveying amount" and "determining means for determining a length" is vague and indefinite.

Applicants traverse this rejection because it appears that the examiner failed to properly accord proper meaning to the claimed elements as set forth in MPEP § 2173.02. Indeed, as set forth in this section of the MPEP, to determine indefiniteness under § 112, second paragraph, the examiner should focus on whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language, however, must be analyzed, not in a vacuum, but in light of (A) the content of the particular application disclosure, (B) the teachings of the prior art, and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. Further, the examiner must consider the claim as a whole to determine whether the claim at issue apprises one of ordinary skill in the art of its scope and, therefore, serves the notice

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function required by § 112, second paragraph.

In this regard, the present disclosure clearly sets forth that a programmable controller 200 controls the sheet processing means, e.g., a puncher, in conjunction with various sheet detecting sensors, namely a sheet end detecting sensor 93 and a sheet detecting sensor 31, which can be used to detect the leading and trailing end of the sheet in the conveying direction. The conveying amount can be detected in accordance with a signal synchronized with operation of the driving means or the motor for driving the conveyor or conveying means for the sheet. The sheet length L (see Fig. 4) can be calculated using a controller 200 in conjunction with a sheet detecting sensor 31. See the paragraphs spanning pages 36-37 and 40-41. Accordingly, the meaning of the detecting means for detecting the conveying amount and the determining means for determining the length of the sheet would have been clear to one of ordinary skill in the art.

With respect to the examiner's argument that the different determining means set forth in the claims is achieved by a computer, which is a single device, it appears that the examiner is alluding that the different determining means set forth in the claims is part of a single structure, and accordingly should not be expressed as different means. In determining whether the claims comply with the definiteness requirement under § 112, second paragraph, the focus should be on whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. Indeed, the claims could have been expressed as a controller or control means for carrying out various different functions. But the claims nonetheless clearly set forth the functionality in terms of structural elements of an apparatus. This is permissible well within the meaning of § 112, as a controller programmed to perform particular functions becomes a specialized controller. Applicants take Official Notice that the functionality of such a controller can be expressed as one or more means-plus-function elements or separate structural elements. Moreover, applicants submit that the scope of the subject matter embraced by the claims is clearly set forth in the specification, and applicants have not argued that to the contrary. Accordingly, applicants submit that the claims comply with § 112, second paragraph. See MPEP § 2173.04.

The examiner further argues, with respect to claim 40, that the third detecting means is

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vague and indefinite in that the examiner does not understand how the length is determined after the second detecting means detects the trailing edge. Claim 40 recites that the third detecting means detects the conveying amount, not the sheet length. As presently amended, this portion of the claims has been tied to the conveyor driving means or motor for enhanced clarity. And as previously explained, the controller 200 can calculate the sheet length L using the sheet detecting sensor 31.

Applicants submit that the § 112 rejection is improper, and thus should be withdrawn.

Art Rejection

Claims 11-15, 19-22, 26, 29, 30, and 33-43 were rejected under 35 U.S.C. § 102(e) as anticipated by Takaishi (USP 6,065,383). Applicants traverse this rejection because Takaishi would not have disclosed or taught the control means that controls the moving means/device to move and stop the sheet processing means/processor based on the conveying amount and the length of the sheet in the conveying direction after the detection of the leading or trailing edge of the sheet.

Independent claims 11, 33, 40, and 41 call for detecting means/detector (e.g., 93) that detects the side edge of the sheet being conveyed, and control means/controller that controls the sheet processing means/processor (e.g., 90) to moved in a width direction, which is perpendicular to the conveying direction, in predetermined timing controlled in accordance with the conveying amount after detecting the leading or trailing edge of the sheet and the length of the sheet so that the side edge of the sheet is detected in a vicinity of the sheet processing position of the sheet. The conveying amount is detected in accordance with a signal synchronized with operation of the driving means or motor for driving the conveyor or conveying means for the sheet. Takaishi does not disclose or teach these aspects of the claimed invention.

Indeed, Takaishi discloses a punching unit 40 that moves perpendicularly to the conveying direction when a predetermined period, which is set according the sheet size, has lapsed after detecting the leading edge of the sheet. In this respect, Takaishi discloses that the

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sheet conveying amount is detected with an encoder 78 fixed to a third transport roller 44. A sensor 79 senses slits 77 formed in the encoder 78. See Fig. 7, column 13, line 61 to column 14, line 4. The sensor counts the number of slits 77 passing across the sensor after the trailing edge of the sheet is detected. When the count reaches a predetermined value, which is preset based on the size of the sheet being processed, the sheet punching process is executed. In short, Takaishi executes the punching process based on the calculated sheet conveying amount, and does not take into account the calculated sheet length. Because Takaishi does not calculate the sheet length and instead merely moves the puncher after the lapse of the predetermined count, it will be impossible or difficult for Takaishi's device to synchronize movement of the puncher and the sheet end detecting sensor 76 when the conveying speed is varied during conveyance, or when a plurality of image forming devices having different conveying speeds are linked to the sheet processing apparatus upstream thereof in the sheet conveying direction.

The examiner indeed acknowledges that Takaishi's does not function as claimed, but argues that Takaishi anticipates all of the pending claims because there is essentially no distinction between selecting the "set sheet size" as disclosed in Takaishi and determining the sheet length as set forth in the claims. It appears that the examiner has failed to appreciate or consider the *Examination Guidelines for Computer-Related Inventions* set forth by the U.S. Patent & Trademark Office. A controller programmed to perform particular functions becomes a specialized controller, and if the claimed controller is programmed in a certain new and unobvious way, it is physically different from the controller without that program or with a different program. The present claims recite a controller (clearly described in the specification as including a computer) that carries out a particular new set of operations, i.e., hardware (computer) programmed in certain ways to create a unique machine. These limitations define the controller and necessarily become part of the unique machine, which is a structure. It is impermissible for the examiner to essentially ignore those limitations that define the controller.

Takaishi does not disclose or teach a controller programmed or configured to function as claimed because Takaishi does not disclose calculating the sheet length. The examiner does not appear to controvert this fact. Instead, the examiner improperly relies on a "can-be-

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programmed" rationale, namely that Takaishi's controller can be instructed to perform the missing function. To anticipate a claim, Takaishi must disclose all of the claimed limitations, including the claimed functionality. Since Takaishi would not have disclosed at least the specialized controller as defined in the claims, Takaishi would not have anticipated the claimed invention within the meaning of § 102.

Conclusion

Applicants submit that the pending claims patentably distinguish over Takaishi and are in condition for allowance. Should the examiner have any issues concerning this reply or any other outstanding issues remaining in this application, applicants urge the examiner to contact the undersigned to expedite prosecution.

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Respectfully submitted,



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